AMSAT News Service Weekly Bulletins
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SB SAT @ AMSAT $ANS-232.01
DOVE-OSCAR-17 STATUS REPORT

HR AMSAT NEWS SERVICE BULLETIN 232.01 FROM AMSAT HQ
SILVER SPRING, MD AUGUST 20, 1994
TO ALL RADIO AMATEURS BT
BID: $ANS-232.01

DOVE-OSCAR-17 (DO-17) Status Report

After extensive development and testing on the ground, another in a series of planned software and hardware tests was activated in the DOVE (DO-17) satellite on 8/3/94 at about 04:40 UTC.

This software sends ASCII telemetry for 90 seconds, then a sequence of 8 tones from the on-board digital-to-analog converter (DAC) followed by three repetitions of the "Hi this is DOVE..." phrase from the voice synthesizer. There is also a new line of status information sent occasionally for test and debugging purposes called VSTAT. It contains data useful to developers and engineers. The purpose of this software is to test the DAC, the two way connection between the 68HC11 processor in the DOVE module and the V40 main processor in the computer module, and various software components and techniques.

The sequence of tones is created by sending digital values to the DAC that generate a pseudo sign wave. It is not intended to simulate a musical scale. However, the tone frequencies do span the nominal audio frequency range of the modulator/transmitter string so they can be used to measure frequency response of the spacecraft hardware.

While DOVE may not sound much different to listeners, hardware components never before activated are in use, along with new software techniques essential to the full exercise of DOVE's capabilities. It is worth noting that some of the hardware used in this test has been idle for 4 1/2 years in space, yet worked perfectly the first time.

With this critical test successfully completed, the development and operations team expects continue to expand DOVE's capabilities.

[The AMSAT News Service would like to thank WD0E and the DOVE Team for this bulletin item.]

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SB SAT @ AMSAT $ANS-232.02
PHASE-3D INTEGRATION IN ORLANDO

HR AMSAT NEWS SERVICE BULLETIN 232.02 FROM AMSAT HQ
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PHASE-3D Spacecraft Integration To Has Begun

Dick Jansson, AMSAT-NA's Vice President for Engineering, announces that progress preparing the Phase 3D spaceframe to receive its various modules is progressing well. He adds that one of the recent factors which greatly assisted this progress was the visit of Konrad Mueller DG7FDQ to the Orlando, Florida Integration Facility. Dick said that Konrad was a

tireless worker during his short stay in Orlando, not getting any time to visit the beach or even Disney World. Those American "slave drivers" kept his attention glued to the Phase-3D task, Jansson commented. One of the last of the tasks completed, before departing for the airport for his trip home, was the bonding of final two equipment panels and heat pipes to the main structure.

AMSAT-NA President Bill Tynan (W3XO) comments that we greatly appreciate the corporation of AMSAT-DL in loaning Konrad Mueller to us so that this vital work could be accomplished in record time and with the high quality required in the construction of the Phase-3D satellite.

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SB SAT @ AMSAT $ANS-232.03
PHASE-3D PRESENTATIONS AT SURREY

HR AMSAT NEWS SERVICE BULLETIN 232.03 FROM AMSAT HQ
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Phase 3D Presentations at the Surrey Satellite Conference

Last week's ANS bulletins presented summaries of some of the papers presented at the International Amateur Satellite Conference held at the University of Surrey in England between July 29 and August 1. This week's bulletin includes more of the material presented on Phase-3D.

One interesting features presented on Phase-3D was in a paper by Dr. Karl Meinzer DJ4ZC and read by Peter Guelzow (DB2OS). It concerned the "LEILA". LEILA is a German acronym but basically it is an "anti-alligator device." LEILA is designed to seek out extra strong signals in the passband. It will initially transmit a Morse warning to the offender telling him or her to reduce power. If that goes unheeded, it will insert 18 dB of attenuation on the frequency of the offending signal. It was stated that LEILA will be able to handle up to five such notches simultaneously.

Peter also discussed the two RUDAKs computer planned for Phase 3D-RUDAK-E and RUDAK-U. The "E" stands for experimental and the "U" for users. RUDAK-U will use AX25 pacsat protocols with six uplinks and one or two down-links at 1200 and 9600 bps, and perhaps faster. The ramdisk should be 16 to 32 MBits. A mailbox is expected. RUDAK-E, similar to the computer on AO-21, and is intended to support experiments with DSP front-ends for soft-ware modems at low and medium speeds such as 1200, 9600 and 19200 bps. Also on the cards is a regenerative modem faster than 64 Kbps and possibly one modem at about 500 Kbps. This will probably use 2400 MHz for one of the links and require 10 Watts of output from P3D and a 1 meter dish for the ground user.

In his talk, G6GEJ presented details on the 2M transmitter he has been building for Phase-3D. It is designed to operate from the 10.7 MHz I.F and uses conventional linear amplification. Mike impressed the group with the prototype of the unit, which he displayed at the meeting.

Hans van Groenendaal ZS5AKV described the 10 meter transmitter being designed and built in South Africa. It will use Compatible Amplitude Modulation (CAM) so that it can be received on simple short wave radios. Transmissions are to consist of 15 minutes of digitally generated audio. The system is intended mainly for educational purposes. It was noted that test transmissions from ZS6SRL using CAM can be heard on 10.125 MHz at 0800 UTC and 1700 UTC Mondays. The signal is beamed toward Europe.

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SB SAT @ AMSAT $ANS-232.04

WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 232.04 FROM AMSAT HQ
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Weekly OSCAR Status Reports: 20-AUG-94

AO-13: Current Transponder Operating Schedule:

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M QST *** AO-13 TRANSPONDER SCHEDULE ***  1994 Jul 11 - Sep 12
Mode-B  : MA   0 to MA  90 |  Omnis   : MA 230 to MA  30
Mode-BS : MA  90 to MA 120 |
Mode-S  : MA 120 to MA 122 |<- S beacon only
Mode-S  : MA 122 to MA 145 |<- S transponder; B trsp. is OFF
Mode-S  : MA 145 to MA 150 |<- S beacon only
Mode-BS : MA 150 to MA 180 |        Blon/Blat 180/0
Mode-B  : MA 180 to MA 256 | Move to attitude 230/0, Sep 12
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   N QST *** AO-13 TRANSPONDER SCHEDULE ***  1994 Sep 12 - Dec 19
   Mode-B  : MA  30 to MA 150 |<- OFF Oct 22 - Nov 07 for eclipses
   Mode-B  : MA 150 to MA 190 |       max duration 2h 12m
   Mode-BS : MA 190 to MA 218 |
   Mode-S  : MA 218 to MA 220 |<- S beacon only
   Mode-S  : MA 220 to MA 230 |<- S transponder; B trsp. is OFF
   Mode-B  : MA 230 to MA  30 |        Alon/Alat 230/0
   Omnis   : MA 250 to MA 140 |  Move to attitude 180/0, Dec 19
  The battery charge state is of paramount importance during the eclipse
  seasons.  As always the command team may have to have to make temporary
  changes to the published schedule.  In that case we will try to minimize
  the inconvenience, setting Mode-B OFF from MA 230-256 in the first
  instance.
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[G3RUH/DB2OS/VK5AGR]

RS-10: NO1R has been enjoying RS-10's Mode A operation at his QTH near Boston. On several mid-Atlantic passes he has worked and confirmed G3ASM in grid square IO94 and F9HR in grid square JN18 near Paris. Robert (F9HR), appears to be very active and NO1R has heard him on both morning and evening passes. Last week, DH5ROB/TF, answered his CQ from Iceland. NO1R used to pass up these low angle mid-Atlantic passes, but now he has worked some of of his best DX on these passes. NO1R also adds that all these DX contacts were done using CW. [NO1R]

AO-16: AO-16 is up and running well. [WH6I]

KO-25: WH6I reports that KO-25 is up and running. He is having some trouble getting reliable data from it, however, and can't seem to find the problem. It's either in the bird, or he feels that he has got some new local interference on the downlink frequency. He is still checking. [WH6I]

KO-23: KO-23 On-Board-Computer (OBC) software crashed about one week ago. The engineers at the KAIST are currently downloading memory images for debugging purposes. Software reloading and packet service will not be carried out until the code dump process finished, which hopefully be completed by next Tuesday. [Hyungshin Kim (hskim@casaturn.kaist.ac.kr)]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ N0QCU. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE

INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

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